50. On September 16, 1997, NAD and CAN jointly filed their Opposition to the Coalition's Request for extension.[126] In the Opposition, NAD and CAN claim that the Coalition's arguments cannot withstand scrutiny and do not provide sufficient justification for noncompliance with the deadline.[127] NAD and CAN urge the Commission not to dismiss the industry's failure to meet its compliance deadline lightly, contending that the industry has been aware of the TTY compatibility requirement since 1994.[128] Accordingly, NAD and CAN propose that the industry be granted a maximum of nine additional months, until July 1, 1998, to achieve compliance with the Commission's TTY compatibility requirement for wireless digital systems.[129] In addition, they request the Commission to direct the Coalition to submit reports every three months to the Commission, setting forth the research conducted and specific efforts undertaken to achieve E911/TTY wireless compatibility.[130] Finally, NAD and CAN urge the Commission to use available enforcement mechanisms, including fines, to ensure compliance with the E911 rules at the conclusion of the nine month extension.[131]

51. The September 25, 1997 Joint Letter urges the Commission to extend the TTY implementation deadline for digital wireless systems for 18 months, until April 1, 1999.[132] Parties to the Joint Letter contend that, although solutions are being developed to address the interface issues of digital networks, an extension of time of 18 months is needed to accomplish implementation.[133] After the implementation of Section 20.18(c) was temporarily stayed until November 30, 1997, the October 3 Public Notice sought further comment on the Joint Letter's proposal to extend the TTY implementation date for 18 months. Commenters responding to the October 3 Public Notice support the proposal made in the Joint Letter regarding this issue, arguing that substantial work remains before digital wireless systems can

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[126] NAD and CAN Opposition to Request for Extension of Eighteen Months to Implement E911/TTY Compatibility Requirement for Wireless Operators (filed Sept. 16, 1997).

[127] *See* NAD and CAN Opposition to Request at 2-5.

[128] *Id.* at 1-3.

[129] *Id.* at 4.

[130] *Id.* NAD and CAN also request that the Commission further direct the Coalition to confer directly with deaf and hard of hearing consumers, and organizations representing deaf and hard of hearing consumers, who have knowledge about telecommunications access issues and issues related to the problems with TTY usage.

[131] *Id.* at 4-5.

[132] Joint Letter at 4.

[133] *Id.*

be made available to TTY users.[134] However, TruePosition contends that it would disserve the public interest to delay wireless E911 implementation for consumers not using TTY wireless devices or for consumers using TTY devices in an analog environment.[135] Similarly, in its Joint Reply Comments, the public safety community clarifies that its intention in the Joint Letter was only to delay implementation of TTY requirements for digital wireless systems, not analog systems.[136]

52. Based on the progress of the TTY Forum — which included participation by wireless industry groups, equipment manufacturers, and consumer groups representing individuals with hearing and speech disabilities[137] — the November 20, 1997 TTY Consensus Agreement proposes a 15-month extension for TTY compatibility requirements for wireless digital systems until January 1, 1999.[138] In the TTY Consensus Agreement, the parties agree that a 15-month extension will provide the Working Group of the TTY Forum with the time they require to develop and implement an effective work plan to deliver 911 services over digital wireless systems for TTY users.[139] The parties also suggest that an additional 3-month extension would be appropriate if the TTY Forum determines that it cannot complete the work plan by January 1, 1999, due to unresolved technical issues.[140] Moreover, the parties to the TTY Consensus Agreement propose to submit to the Chief of the Wireless Telecommunications Bureau a brief status report describing the progress of the TTY Forum every four months.[141]

2. Discussion

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[134] *See, e.g.*, AirTouch Further Comments at 3; AT&T Further Comments at 2-3; BellSouth Further Comments at 3; GTE Further Comments at 3; MCC Further Comments at 3-6; Nextel Further Comments at 4; PrimeCo Further Comments at 3; US West Further Comments at 3.

[135] TruePosition Further Comments at 3.

[136] Joint Reply Comments at 2.

[137] In September 1997, CTIA convened a meeting of wireless industry representatives, technical experts and consumer organizations to develop a consensus on how to support TTY technology over digital wireless systems. *See, e.g.*, CTIA *Ex Parte* Filing (Sept. 23, 1997).

[138] *See* TTY Consensus Agreement at 1-2 (In accordance with the TTY Consensus Agreement, PCIA amends its initial request for an 18-month extension of time, and NAD and CAN also withdraw their opposition to PCIA's extension request).

[139] *Id.* at 1.

[140] *Id.*

[141] *Id.*

a. TTY Compatibility with Digital Wireless Systems

53. E911 compatibility with TTY is a critical public safety need. We agree with CAN that people with hearing and speech disabilities who rely on TTYs to communicate are entitled to the same rapid and efficient access to help in emergencies as other Americans.[142] Indeed, Title II of the ADA requires non-discriminatory access to state and local government services, such as 911, for people with speech and hearing disabilities.[143] We note that the large majority of wireless phones currently use analog technology, and, as noted above, such phones are compatible with TTYs. We also note, however, that digital phones offer additional choices and features which should be available to TTY users. Furthermore, we note that manufacturers and service providers are increasingly using digital technology.[144] We believe that this number will continue to increase significantly over the next few years. Thus, any delay in TTY compatibility for digital handsets and systems prevents people with hearing and speech disabilities from participating in the benefits of digital technology, and delay in assured TTY access to 911 also diminishes their safety in emergencies, as well as the safety of others for whom they might seek help.

54. Because the Commission had not completed its review of pending petitions for reconsideration and of a number of late *ex parte* filings regarding the TTY compatibility issues, the implementation deadline for the Section 20.18(c) TTY compatibility requirement was temporarily stayed from October 1, 1997 until November 30, 1997.[145] We are reluctant, however, to grant any additional extension of time for E911/TTY compatibility. We are particularly reluctant in view of the disappointing failure of the wireless industry to achieve compatibility for digital systems to date. The Commission adopted the *Wireless E911 Notice* in September 1994. As representatives of the disability community point out, wireless carriers have had substantial notice and time, approximately three years, to meet the October 1, 1997 deadline.[146] The wireless industry also offers little in the way of convincing justification for their failure to meet the deadline. A principal explanation offered by the Coalition in their request for additional time of at least 18 months is that there were ``competing demands''

[142] *See* CAN Comments at 3-4.

[143] See discussion at para. 42, *supra.*

[144] For example, while there were 2.6 million digital wireless handsets out of a total of 43.8 million wireless handsets, or approximately 6 percent, in 1996, projections for 1997 estimate the number of digital wireless handsets in use will be more than 10 percent of total wireless handsets. *See, e.g.,* Donaldson, Lufkin & Jenrette, The Wireless Communications Industry, Spring 1997, at 55-56 (Tables 13A and 13B).

[145] *Stay Order* at 1-2.

[146] *Id.* at 3; NAD and CAN Opposition to Request at 1-3.

upon the relevant personnel.[147] While the parties argue that they need more time to comply with the TTY requirement, we note that the TTY requirement proposal in the *E911 Notice* was based on the Joint Paper, filed by PCIA, APCO, NENA, and NASNA.[148] In addition, as we stated in the *E911 First Report and Order*, the parties to the Consensus Agreement agreed to meet the Commission's proposed TTY compatibility requirement.[149]

55. The record, however, clearly indicates that it is currently not possible to provide digital wireless services to TTY users.[150] Consumer organizations representing individuals who are deaf and individuals with hearing and speech disabilities — NAD, CAN, TDI, and Gallaudet University — acknowledge that additional time is required to implement wireless digital solutions for TTY users.[151] Despite our reluctance to delay the implementation deadline for TTY compatibility requirements, we agree with parties that the Commission must also recognize the present existence of technical barriers.[152] We will therefore grant an extension of the deadline for digital wireless systems, subject to conditions that will ensure that the delay in TTY compatibility is as brief as possible.

56. The record reflects that, while it is currently feasible to transmit TTY calls through wireless analog systems, digital handsets and systems require different technical solutions. Digital wireless systems use vocoders that represent a mathematical model of the human vocal tract to efficiently reproduce the speech it produces. TTY signaling tones, in contrast, are not sounds typically produced by the vocal tract and vocoders may not reproduce them well. Industry standards bodies have been studying TTY compatibility issues, but to

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[147] Coalition Request for Extension of Time at 3; *see also* NAD and CAN Opposition to Request at 2-5.

[148] APCO, NENA, NASNA, and PCIA filed ``Emergency Access Position Paper," known as the ``Joint Paper" in 1994. The Joint Paper presents the consensus recommendations to assist standards-setting bodies in developing appropriate standards for emergency access from wireless services system to 911 services. The parties to the Joint Paper proposed that the wireless systems should allow people with hearing and speech disabilities to access emergency services through means other than traditional wireless voice handsets. *See* Appendix D to *E911 Notice*.

[149] *E911 First Report and Order*, 11 FCC Rcd 18700 (para. 49) (citing Consensus Agreement at 4).

[150] *See, e.g.*, CTIA *Ex Parte* Filing (Sept. 23, 1997); Joint Letter at 4; AirTouch Further Comments at 3; AT&T Further Comments at 2-3; BellSouth Further Comments at 3; GTE Further Comments at 3; MCC Further Comments at 3-6; Nextel Further Comments at 4; PrimeCo Further Comments at 3; US West Further Comments at 3; TTY Consensus Agreement.

[151] TTY Consensus Agreement at 1.

[152] *See, e.g.*, MCC Further Comments at 5-6.

date have not established standards for interfaces between TTY and digital systems.[153] Omnipoint, for example, states in its petition that, while limited testing has shown that successful analog TTY communications are possible with the 13 kb/s ``full rate" speech vocoder used in the PCS-1900 digital standard, the sub-8 kb/s vocoder used in IS-661 technology is currently *unable* to transmit TTY modem tones successfully.[154]

57. Parties also contend that, while progress was made at the CTIA Forum on TTY compatibility issues, substantial work remains to be done before digital services can be made available to TTY users, and certainly before such service can be consistently error-free, standardized, and ubiquitous.[155] The parties to the TTY Consensus Agreement, for example, suggest that a 15-month extension is necessary to allow the Working Group of the TTY Forum sufficient time to develop and implement an effective work plan to deliver 911 services over digital wireless systems for TTY users.[156] Therefore, we determine that the record supports establishment of separate implementation dates for analog and digital systems, and that delay in the implementation date for digital systems is necessary.

58. Accordingly, we modify the Section 20.18(c) implementation deadlines for analog wireless systems and digital wireless systems. For analog systems, the implementation deadline for Section 20.18(c) would be December 1, 1997, the expiration of the stay of that rule. Although we recognize that an additional delay period is necessary for digital wireless systems, we believe the 15-month extension proposal contained in the TTY Consensus Agreement is excessive. We also do not believe that an additional 3-month extension until April 1, 1999 is necessary and do not believe it would be appropriate to leave the decision whether to grant an additional extension to the TTY Forum.[157] Any unnecessary or premature delay in TTY compatibility with 911 impairs the public health and safety and runs counter to the policies of the ADA. Some comments also suggest that digital compatibility problems

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[153] *See* Wireless E911 Coalition *Ex Parte* Filing (June 4, 1997); CTIA *Ex Parte* Filing (Sept. 23, 1997); Joint Letter at 4; AirTouch Further Comments at 3; AT&T Further Comments at 2-3; BellSouth Further Comments at 3; GTE Further Comments at 3; MCC Further Comments at 3-6; Nextel Further Comments at 4; PrimeCo Further Comments at 3; US West Further Comments at 3.

[154] Omnipoint Petition at 9-11 & n.11.

[155] MCC Further Comments at 5; TTY Consensus Agreement at 1.

[156] TTY Consensus Agreement at 1.

[157] *Id.*

may be less serious than was originally feared.[158] We reiterate that the wireless industry and other interested parties must give TTY compatibility the priority that the law demands.[159]

59. We will, therefore, temporarily suspend enforcement of the TTY requirement for 12 months until October 1, 1998, but only for digital systems and subject to conditions that protect consumers, encourage compliance, and ensure minimal delay. Specifically, we require that (1) carriers whose systems are not compatible with TTY calls must notify current and potential subscribers, as we discuss below, and (2) quarterly progress reports on efforts and achievements in E911-TTY compatibility, including efforts made to implement the notification requirement, be filed with the Commission by the parties to the TTY Consensus Agreement. We believe that this extra time will allow the wireless industry — working with organizations representing individuals with hearing and speech disabilities — to overcome technical barriers and compatibility problems involved in implementing solutions for TTY users on digital wireless systems. We also delegate to the Wireless Telecommunications Bureau the authority to grant an additional 3-month extension until January 1, 1999, upon reviewing the quarterly status reports on TTY compatibility with digital systems filed by the parties to the TTY Consensus Agreement, as we discuss below.

b. Notification Requirement

60. Carriers whose systems are not compatible with TTY calls must make every reasonable effort to notify current and potential subscribers that they will not be able to use TTYs to call 911 with digital wireless devices and services. The Commission is concerned that the delay in finding a compatibility solution for digital wireless services and TTYs could result in people unknowingly purchasing wireless handsets and subscribing to services that are incapable of transmitting TTY tones accurately. Such incompatibility would delay or prevent the dispatch of help to TTY users in an emergency. Consumers might also believe that the Commission's original TTY compatibility deadline remains in effect for all wireless phones and services, including digital systems.

61. To help ensure that the delay in solving the TTY compatibility problem does not mislead or otherwise create problems for TTY users, we encourage carriers to work together with manufacturers, retailers, public safety officials, and representatives of TTY users to make every reasonable effort to notify current and potential subscribers of this compatibility problem until it is solved. This notification could be accomplished, for example, with inserts in billing statements, newsletters, notification stickers on handsets, disclosures in service agreements, user manuals, or other means designed to inform current and potential subscribers of the inability to use TTYs to call 911 with digital devices.

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[158] *See, e.g.*, Wireless E911 Coalition *Ex Parte* Filing (June 4, 1997).

[159] *See* 42 U.S.C. §§ 12131-12134.

c. Reporting Requirements

62. As we mentioned above,[160] the Commission required each of the signatories to the Consensus Agreement, PCIA, and TDI to report to us jointly by October 1, 1997, regarding the status of the issues related to E911 features for TTY calls. After the implementation deadline was stayed until November 30, 1997, however, CTIA requested an extension of time to file the Joint Status Report on TTY issues, contending that the parties need to take into consideration the additional 60 days allowed for implementation and to evaluate the effectiveness of TTY implementation.[161] We now grant the extension requested by CTIA and require the reporting parties to file the Joint Status Report by December 30, 1997.

63. The Coalition, in requesting an extension of the October 1, 1997 deadline, also pledged that the wireless industry would provide periodic status updates on progress in TTY compatibility.[162] In addition, the TTY Consensus Agreement proposes to submit a status report on the progress of the TTY Forum every four months.[163] To monitor the progress of these efforts and help encourage and ensure progress, we will require that the progress reports be made as a condition for the suspension of enforcement of the TTY requirement for wireless digital systems. These progress reports should be filed by the parties to the TTY Consensus Agreement in this docket at least quarterly, within 10 days after the end of the quarter beginning January 1, 1998, until the quarter ending September 30, 1998. For the first quarter, January-March, 1998, this progress report should be filed no later than April 10, 1998.

64. The quarterly status report should include, but not be limited to, information regarding the problems associated with TTY access through digital wireless systems, proposed technical solutions, and steps taken to achieve the proposed technical solutions.[164] In addition, as part of the quarterly status report, the parties to the TTY Consensus Agreement will be required to report generally on the steps taken to notify current and potential subscribers that TTYs cannot be used to call 911 over digital wireless systems.[165] Such information should be sufficiently detailed to allow the Commission to assess whether sufficient progress is being made. Based on these quarterly status reports, the Wireless Telecommunications Bureau,

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[160] See discussion at para. 43, *supra.*

[161] CTIA *Ex Parte* Filing (Oct. 1, 1997); *but see* CTIA *Ex Parte* Filing (Sept. 23, 1997).

[162] Wireless E911 Coalition *Ex Parte* Filing at 5 (June 4, 1997).

[163] TTY Consensus Agreement at 1-2.

[164] *Id.*

[165] See discussion at paras. 60-61, *supra.*

under delegated authority, may extend the suspension of enforcement of Section 20.18(c) for an additional three months, until January 1, 1999, if necessary. We note that the disability community has agreed to support the efforts of the TTY Forum by providing representatives with appropriate technical expertise to the Working Group.[166] We strongly urge the industry to include the disability community in the process of making E911 compatible with TTY for digital service.

d. Short Message Service

65. We deny portions of the Omnipoint and TIA petitions requesting that the Commission allow digital system providers to comply with the 911 access rules through a ``short-messaging service" or data services compliant with international standards.[167] Omnipoint and TIA argue that a written short messaging service (SMS), such as a direct teletext service through the mobile unit's display and keypad, would be the best alternative to the transmission of TTY signals through a digital vocoder system, because PCS-1900 phones currently permit a written message to be prepared using the keypad on the handset.[168] TIA also claims that direct teletext service would provide maximum benefits to the end user (*i.e.*, reliable TTY communications) without requiring a stand-alone TTY unit in addition to the mobile phone. Therefore, TIA urges the Commission to provide flexibility in requiring TTY and digital wireless E911 compatibility through the use of this ``functional equivalent."[169]

66. The disability community, however, contends that the use of handset keypad-originated text messages is not an appropriate alternative. CAN, for example, argues that in an emergency situation, very few callers would be able to maintain the level of concentration needed to complete a call by pressing certain keys a specified number of times to create a letter, which is the conventional method for transmitting a short message service.[170] Moreover, the record indicates that using the SMS and data advanced capacity of PCS-1900 networks to communicate with a PSAP would not currently offer a significant end user benefit because few PSAPs are configured to accept SMS directly and not all PSAPs can accept ASCII type TTY calls and other types of data calls.[171] Omnipoint concedes that, while

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[166] *Id.* at 2.

[167] *See* Omnipoint Petition at 8; TIA Petition at 14-15.

[168] *See* Omnipoint Petition at 8; TIA Petition at 14-15.

[169] TIA Petition at 14-15.

[170] CAN Comments at 2-3.

[171] *See* Omnipoint Petition at 13-14 (claiming that not all PSAPs can accept the 300 b/s ASCII type TTY calls, and fewer PSAPs are able to accept a data call other than a 300 b/s ASCII call from a TTY device).

it believes SMS may be useful eventually and should be promoted as a method of transmitting emergency calls by people with hearing and speech disabilities, its effectiveness requires PSAPs to be suitably equipped for SMS communications.[172] Until this upgrade occurs, people with hearing or speech disabilities cannot rely on SMS in emergency situations.

67. We also note that under Department of Justice regulations, all PSAPs are currently required to be equipped with minimal capability for receiving Baudot format TTY calls. Thus, a public entity would not be required to provide direct access to computer modems and other data services using formats other than Baudot, until it can be technically proven that communications in another format can operate in a reliable and compatible manner in a given telephone emergency environment.[173] Accordingly, we agree with CAN that the use of handset keypad-originated text messaging, as suggested by Omnipoint and TIA, is not an appropriate or practical alternative for hearing and speech-impaired persons in an emergency.

e. E911 Requirements for TTY Calls

68. Although Section 20.18(d) and Section 20.18(e) clearly require covered carriers to provide Phase I and Phase II features of E911 for all 911 calls, including TTY calls,[174] the text of the *E911 First Report and Order* suggests that implementation of these features for

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[172] *Id.* at 14.

[173] *See* ADA Title II Technical Assistance Manual, II-7.3100.

[174] Section 20.18(d), regarding ANI requirements, states:

> As of 18 months after the effective date of the rule [April 1, 1998], licensees subject to this section must relay the telephone number of the originator of a 911 call and the location of the cell site or base station receiving *a 911 call from any mobile handset or text telephone device accessing their systems* to the designated PSAP through the use of Pseudo ANI and ANI.

47 C.F.R. § 20.18(d) (emphasis added). Section 20.18(e), regarding ALI requirements, states:

> As of five years after the effective date of this rule [October 1, 2001], licensees subject to this section must provide to the designated PSAP the *location of a 911 call* by longitude and latitude within a radius of 125 meters using RMS techniques.

47 C.F.R. § 20.18(e) (emphasis added).

TTY might be further explored and negotiated by the parties.[175] We therefore clarify our intention in order to encourage rapid implementation of the TTY access requirement.

69. When we required each of the signatories to the Consensus Agreement, as well as PCIA and TDI, to report to us by the implementation date of the TTY access rules (October 1, 1997), our intention was to assess the status of issues related to E911 features for TTY calls, *not* to defer the implementation of E911. As we stated in the *E911 First Report and Order*, we may initiate a further proceeding after reviewing this report.[176] This possibility of a further proceeding does not, however, affect the current TTY rules. Moreover, the record indicates that TTY transmissions occur over a voice channel only, and that currently available automatic location technology would not be affected by the technical concerns related to TTY transmissions over digital wireless systems.[177] TruePosition, for example, contends that there is no reason to delay the Phase II deadlines based on the technical difficulties associated with TTY requirements, because its location system utilizes the reverse control signal emanating from a wireless phone, which is separate from the voice channel signal.[178] Therefore, the implementation of the Phase I and Phase II E911 requirements for TTY calls should conform to our rules, as scheduled. For the reasons discussed above,[179] we do, however, defer the Phase I requirements for TTY calls through digital systems until October 1, 1998.

C. Applicability of Rules

1. Definition of Covered SMR Services

a. Background and Petitions

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[175] In the *E911 First Report and Order*, the Commission stated that:

> Although we recognize TDI's concerns that TTY users should also benefit from E911 features including ALI and ANI capabilities, *we are of the view that at this time it would be prudent for the wireless industry, equipment manufacturers, PSAPs, and the disabled community to explore these issues to determine the extent of the problems and whether these issues might be resolved by agreements between the interested parties or by standard bodies.*

11 FCC Rcd at 18702 (para. 52) (emphasis added).

[176] *Id.*

[177] *See* TruePosition Further Comments at 6.

[178] *Id.*

[179] See discussion at paras. 53-58, *supra*.

70. In the *E911 First Report and Order*, the Commission applied the 911 and E911 rules to cellular, broadband PCS carriers, and ``covered SMRs.''[180] We defined ``covered SMRs'' as those SMRs that hold geographic area licenses or have obtained extended implementation authorizations in the 800 MHz or 900 MHz service, either by waiver or under Section 90.629 of the Rules.[181] In addition, the term ``covered SMR'' includes only licensees that offer real-time, two-way switched voice service that is interconnected with the public switched network, either on a stand-alone basis or packaged with other telecommunications services.[182] Thus, we stated that local SMR licensees offering mainly dispatch services to specialized customers, as well as licensees offering data, one-way, or stored voice services on an interconnected basis, would not be governed by these E911 requirements.[183] The intent was to extend the 911 requirements that apply to cellular and broadband PCS carriers to those SMRs that compete with them in providing mobile telephone service to the general public, but not to traditional dispatch services.

71. In their petitions, a number of parties contend that the definition of ``covered SMR'' adopted in the *E911 First Report and Order* is overinclusive. Specifically, these parties argue that some SMR licensees that offer mostly dispatch services inappropriately come within the covered SMR definition by virtue of the fact that they provide limited interconnection capability to their dispatch customers.[184] Contending that a more narrowly tailored definition is required to achieve the Commission's intention to exclude all traditional local SMRs, these petitioners ask the Commission to define ``covered SMR'' either based on the use of a ``mobile telephone switching facility,'' or based on the number of subscribers nationwide. AMTA and Nextel, for example, propose that the term, ``covered SMR,'' encompass only those SMR systems that ``offer consumers two-way voice services using a mobile telephone switching facility.''[185] PCIA proposes that the definition of ``covered SMRs'' depend on the number of mobile units served.[186] AMTA also alternatively proposes

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[180] *E911 First Report and Order*, 11 FCC Rcd at 18716-18 (paras. 80-83).

[181] *Id.* at 18716 (para. 81).

[182] *Id. See* 47 C.F.R. § 20.18(a).

[183] *E911 First Report and Order*, 11 FCC Rcd at 18716 (para. 81).

[184] *See* AMTA Petition at 1-6; SBT Petition at 3-4; PCIA Petition at 16-17; Nextel Petition at 7-9.

[185] Nextel Petition at 8; AMTA Petition at Exhibit A. AMTA also proposes to define ``Mobile Telephone Network Facility'' as ``an electronic system that is used to terminate mobile stations for purposes of interconnection to each other and to trunks interfacing with the public switched network.''

that the term ``covered SMR'' apply only to ``systems serving 20,000 or more subscribers nationwide.''[187]

72. On December 16, 1996, AMTA filed a Petition for Declaratory Ruling concerning the definition of ``covered SMR'' in this and three other Commission proceedings.[188] In its Petition, AMTA proposes a revised definition of ``covered SMRs'' in this proceeding as ``geographic area SMR services in the 800 MHz and 900 MHz bands (included in Part 90, Subpart S of this chapter) that offer real-time, two-way interconnected voice service using multiple base stations and an intelligent in-network switching facility that permits automatic, seamless interconnected call handoff among base stations, and Incumbent Wide Area SMR licensees.''[189]

73. In an *ex parte* filing dated April 14, 1997, Geotek proposes an alternative for SMR licensees operating in a group dispatch-style configuration.[190] Geotek claims that application of the E911 rules to SMR carriers providing traditional dispatch services to the regulatory requirements adopted in the *E911 First Report and Order*, with interconnection as an ancillary feature, may be counterproductive and lead to results adverse to the Commission's intentions.[191] Under Geotek's proposed alternative rule, a covered carrier offering dispatch-style services must notify its customers that vehicles with interconnected service within the customer's fleet may not have capability to reach an appropriate PSAP by dialing 911. The covered carrier would be required to specify in its notice to customers that it is the responsibility of the customer, presumably through its dispatcher, to process requests for emergency assistance from vehicles within the fleet, as well as to make the vehicle operators aware on a regular basis of the need to contact the dispatcher rather than dial 911. Further, Geotek proposes that covered carriers provide the customer with labels to be affixed to the vehicle radios that instruct the operators to contact their dispatcher directly in an emergency.[192] Nextel, in an *ex parte* filing dated June 4, 1997, supports Geotek's claim that

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[187] AMTA Petition at 8-9.

[188] AMTA Petition for Declaratory Ruling, In the Matter of Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, CC Docket No. 94-54; Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, RM-1843; Telephone Number Portability, CC Docket No. 95-116, RM-8535; Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, ET Docket No. 93-62, filed Dec. 16, 1996.

[189] *Id.*, Exhibit.

[190] Geotek *Ex Parte* Filing (Apr. 14, 1997).

[191] *Id.*

[192] *Id.*, Attachment.

the Commission should allow fleet dispatch users to rely on their dispatcher for emergency situations.[193]

74. In their *ex parte* filings, Geotek and Nextel argue that a dispatcher remains the natural point of contact in an emergency in traditional dispatch-style operations with limited interconnection capability, because the dispatcher has far better information regarding a mobile unit's exact location and is in almost constant contact with the fleet. Geotek and Nextel also note that in a dispatch system that provides interconnection, it is not guaranteed that a customer's 911 call would be connected to the nearest or most appropriate PSAP given the locational limitations of the single base station.[194] They argue that even if an interconnected customer can reach the PSAP by calling 911, the call may not be routed to the nearest or most appropriate PSAP because traditional dispatch operations typically use a single high power cell site that may cover a radius of as much as 25 miles.[195] Thus, they contend that, while it may be ``possible" to provide PSAPs with the system's base station location, such information is of no practical value to determining the caller's location.[196]

b. Discussion

75. In the *E911 First Report and Order,* we concluded that cellular and broadband PCS carriers should be subject to 911 and E911 requirements because customers, many of whom purchase cellular and PCS telephone equipment primarily for safety and security

[193] Nextel *Ex Parte* Filing at 2 (June 4, 1997). Nextel claims that it provides the following four distinct service offerings, each with varying degrees of interconnection, and therefore varying degrees of E911 capabilities: (1) analog dispatch-only services; (2) analog dispatch services with limited ancillary interconnection capability; (3) dispatch-only digital iDEN service; and (4) fully integrated digital cellular, dispatch, short-messaging iDEN services.

[194] Geotek *Ex Parte* Filing at 3 (Apr. 14, 1997); Nextel *Ex Parte* Filing at 4 (June 4, 1997)

[195] Nextel *Ex Parte* Filing at 4 (June 4, 1997). Nextel, for example, claims that an analog user travelling through Washington, D.C., might be operating on a base station located in Baltimore, Maryland. If the user were to dial 911, the call would be routed to a PSAP in Baltimore, approximately 40 miles away from the caller's location and the appropriate PSAP in the District. *See also* Geotek *Ex Parte* Filing at 3 (Apr. 14, 1997). Geotek also claims that licensees providing traditional dispatch operations typically operate cells with radii as large as 25 miles, *i.e.*, areas close to 2,000 square miles. Within such an area, there may be numerous PSAPs. In addition, in some locations, such as the Philadelphia area, the area served by a single cell site might include a multiplicity of jurisdictions, including several across state borders.

[196] Nextel *Ex Parte* Filing at 4 (June 4, 1997). Nextel also argues that because the individual user has no specific telephone number assigned to it, the Phase I requirement to transmit a call back number cannot be accomplished since there is no phone number for the PSAPs to call back.

reasons, expect such service.[197] We also concluded that those SMR providers that have the potential to offer near-term direct competition to cellular and PCS systems also should be subject to the E911 requirements.[198] We determined that a distinction was warranted between SMR providers that will compete directly with cellular and PCS providers, and SMR providers that offer mainly dispatch services in a localized non-cellular system configuration. We therefore adopted the ``covered SMR'' definition in an attempt to exclude the latter category of SMR providers from our E911 requirements.

76. On reconsideration, we agree with petitioners that the ``covered SMR'' definition adopted in the *E911 First Report and Order* is overinclusive with respect to certain types of SMR systems. In addition, we conclude that the concept of applying E911 requirements only to certain categories of ``covered'' carriers should be extended to cellular and broadband PCS. The current rule requires all geographic area or wide-area SMR licensees to comply with the E911 requirements if they provide two-way real time interconnected voice service. As petitioners point out, however, this brings within the ``covered SMR'' definition any SMR provider with a geographic or wide-area license that provides any form of interconnected two-way voice service. Thus, SMR providers that primarily offer traditional dispatch services but also offer limited interconnection capability are potentially subject to E911 requirements under the current rules. We believe that this is inconsistent with our determination that only SMR providers who compete directly with cellular and PCS should be subject to E911 requirements.

77. We also note that traditional dispatch providers with limited interconnection capabilities, such as those described by Geotek in its *ex parte* filing, would have to overcome significant and potentially costly obstacles to provide 911 access. First, ``non-cellular'' dispatch systems typically have a limited number of interconnected lines and do not necessarily have the capability to accommodate PSAP routing. Further, interconnected SMR users or dispatch systems are often not assigned individual telephone numbers and must share phone lines with other customers, creating the risk of getting a busy signal on an interconnected call, including a 911 call. Even if the call reaches the PSAP via 911, selective routing to the appropriate PSAP is complicated by the fact that most dispatch-oriented systems use single, high-power sites, so that routing a 911 call to the system's base station may not guarantee connection to the nearest or most appropriate PSAP.[199]

78. For the foregoing reasons, we conclude that the ``covered SMR'' definition should be narrowed to include only those systems that will directly compete with cellular and PCS in

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[197] *E911 First Report and Order*, 11 FCC Rcd at 18716 (para. 80).

[198] *Id.* (para. 81).

[199] *Id.* at 18680 (para. 7).

providing comparable public mobile interconnected service. We agree, as several petitioners suggest, that the best indicator of an SMR provider's ability to compete with cellular and broadband PCS providers in this respect is whether the provider's system has ``in-network'' switching capability. This switching capability allows an SMR provider to hand off calls seamlessly without manual subscriber intervention. In-network switching facilities also accommodate the reuse of frequencies in different portions of the same service area. Frequency reuse enables the SMR provider to offer interconnected service to a larger group of customers, which enables the provider to compete directly with cellular and PCS. We therefore adopt these criteria as the basis for our definition of ``covered'' service.

79. In adopting this definition of ``covered'' service, we note that some ``covered'' SMR providers that utilize in-network switching and provide seamless handoff may also provide their customers with dispatch capability. We agree with Geotek and Nextel that in such instances, customers' emergency needs may be as well served by the dispatcher as by providing 911 dialing access. We therefore conclude that ``covered'' SMR systems that offer dispatch services to customers may meet their E911 obligations to their dispatch customers either by providing customers with direct capability for E911 purposes, or alternatively, by routing dispatch customer emergency calls through a dispatcher.

80. A covered carrier who chooses the latter alternative for its dispatch customers must make every reasonable effort to explicitly notify current and potential dispatch customers and their users that they will not be able to directly reach a PSAP by calling 911 and that, in the event of an emergency, the dispatcher should be contacted. This notification could be accomplished, for example, with an insert in billing statements, newsletters, notification stickers on handsets, disclosure in service agreements, user manuals, or other means designed to inform current and potential subscribers of the inability to directly call 911 with SMR systems that offer dispatch services.

81. We also conclude that cellular and broadband PCS should be treated consistently with SMR providers to the extent they do not provide in-network switched mobile telephone services. The likelihood that some providers may seek to provide other services over cellular or broadband PCS spectrum is heightened by our recent rule changes which allow the partitioning and disaggregation of spectrum.[200] We believe that all broadband Commercial Mobile Radio Service (CMRS) licensees providing primarily dispatch service should be excluded from the E911 requirements regardless of whether SMR, PCS, or cellular spectrum is used. Therefore, we extend our modified ``covered SMR'' definition to these other services also. We believe that this revised definition of the class of carriers covered by our rules also will better match expectations of consumers who use services of these carriers as to whether they will have access to 911 and E911 services. In addition, ``covered carriers'' that offer

[200] Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services, WT Docket No. 96-148, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 21831 (1996).

dispatch services to their customers may meet their E911 obligations by providing access through a dispatcher, provided they comply with the notification requirement described above.

82. We agree with Nextel's assertion in its petition that the definition of ``covered'' services for E911 purposes should be applied on a system-by-system basis. Therefore, we clarify that where a licensee provides ``covered'' interconnected services on one system while providing traditional dispatch services on another system, only the ``covered'' system is required to provide E911 services.

83. Finally, we reject AMTA's alternative proposal that the ``covered'' service definition apply only to systems serving 20,000 or more subscribers nationwide. We seek to develop a definition that covers cellular, broadband PCS, and SMR providers based on the functional nature of the service they provide. A definition based solely on the size of a system without regard for the type of services provided would be arbitrary and incompatible with our policy objectives.

2. Mobile Satellite Services

a. Background and Petitions

84. In the *E911 First Report and Order,* the Commission exempted Mobile Satellite Services (MSS) from the 911 and E911 rules, recognizing that adding specific regulatory requirements to MSS may impede the development of service in ways that might reduce its ability to meet public safety needs.[201] We noted that coordination with international standards bodies will be necessary for international calls, and the current state of technology requires more obstacles to be overcome in the case of MSS carriers than for terrestrial carriers.[202] Thus, while we expected that CMRS voice MSS will eventually be required to provide appropriate access to emergency services, we did not adopt a schedule or other requirements for such service providers in this proceeding.[203]

85. In its petition for reconsideration, the Coast Guard requests that the Commission reconsider this decision and issue a Further Notice of Proposed Rulemaking regarding the provision of emergency communications by MSS systems.[204] The Coast Guard argues that it

[201] *E911 First Report and Order*, 11 FCC Rcd at 18718 (para. 83).

[202] *Id.*

[203] *Id.*

[204] Coast Guard Petition at 6.

is best to resolve the issue of E911 access for MSS systems now, while mobile satellite voice systems are fairly new and not yet in widespread use, contending that public safety agencies will face the potentially tragic consequences of interoperability in the future without pertinent safety regulations and standards.[205] Based on new facts from the recent discussion with AMSC, including new information on costs for providing Global Positioning Systems (GPS) for MSS phones, the Coast Guard claims that a reconsideration of our decision on MSS is required in the public interest.[206]

86. In response to the Coast Guard's petition, several parties argue that the Commission should refrain from reconsidering our decision not to impose E911 requirements to MSS at this time. COMSAT, for example, contends that it is not appropriate or otherwise in the public interest for the Commission to extend its E911 rules unilaterally to existing global MSS offerings and urges that the Commission consider establishing an industry advisory group to facilitate further consideration of 911 compatibility issues for domestic MSS service providers.[207] Motorola Satellite also argues that there is no need for a Further Notice of Proposed Rulemaking, because the ultimate MSS solution may not be similar to the approach for terrestrial systems, and because competition will result in MSS operators providing emergency communications.[208] On the other hand, AMSC states that, although it does not agree completely with the Coast Guard's characterization of the feasibility of providing certain emergency services, it supports the Coast Guard's request that the Commission play an active role in this process, either through the issuance of a Further Notice of Proposed Rulemaking or through some other mechanism, such as an industry advisory group.[209]

b. Discussion

87. Upon reviewing the record, we affirm our decision not to impose E911 requirements upon MSS providers at this time, and we deny the Coast Guard's petition for reconsideration. As we recognized in the *E911 First Report and Order*, the commercial MSS

[205] *Id.* at 2.

[206] *Id.* at 6.

[207] COMSAT Reply at 4.

[208] Motorola Satellite Reply at 8-9.

[209] AMSC Opposition at 1-2.

industry is still in its infancy.[210] Although we acknowledge the Coast Guard's argument that it would be best to resolve issues related to public safety communications and standards before the deployment of MSS becomes widespread, it is our policy in this proceeding not to impose specific regulatory requirements on certain classes of CMRS providers that have not yet fully developed their commercial services.[211] In addition to MSS services, the Commission also exempted 220 MHz licensees operating on 5 kHz channels, noting that the 220 MHz service is in its early stages and is still evolving.[212] Similarly, we determined that it is premature to require multilateration Location and Monitoring Service (LMS) to provide E911 at this time, because it is not certain how this service will develop.[213] As we indicated in the *E911 First Report and Order*, we might revisit our decision if these various services develop into a mobile public telephone service like cellular or broadband PCS.[214]

88. Because the public interest is likely to require that all CMRS real time two-way voice communications services provide reasonable and effective access to emergency services, we expect that CMRS voice MSS will eventually provide appropriate access to emergency services, either voluntarily or pursuant to Commission rules.[215] We are confident that the domestic MSS industry will continue their efforts to coordinate with public safety agencies to develop mutually acceptable emergency access services in the meantime.[216] Moreover, we agree with some parties that imposing national standards on systems operating land earth stations in the United States would leave global ``Big LEO'' MSS operators subject to both United States standards and to future international requirements, resulting in additional costs and uncertainty.[217] COMSAT, for example, contends that the need to coordinate with

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[210] *See E911 First Report and Order*, 11 FCC Rcd at 18718 (para. 83). For example, Motorola Satellite states that the only MSS provider operating in the United States, AMSC, has only 9,000 customers, and the currently-licensed ``Big LEO'' MSS providers have not yet implemented voice services. Motorola Reply at 4. LQL also opposes the Coast Guard's proposal, contending that E911 requirements for MSS systems would hinder the rapid introduction of new and enhanced MSS services. LQL Opposition at 2.

[211] *E911 First Report and Order*, 11 FCC Rcd at 18718 (para. 83).

[212] *Id.* at 18717 (para. 82).

[213] *Id.*

[214] *Id.* at 18717-18 (paras. 82-83).

[215] *Id.* at 18718 (para. 83).

[216] *See, e.g.*, COMSAT Reply at 2-3; AMSC Opposition at 1-2; Motorola Satellite Reply at 3.

[217] *See E911 First Report and Order*, 11 FCC Rcd at 18718 (para. 83). *See also* Motorola Satellite Reply at 6-7.

international standards bodies and the current state of MSS technology pose real obstacles to the immediate deployment of E911 systems by MSS.[218]

89. Although the Coast Guard argues that the Commission should lead the international standards bodies to develop compatible national and international safety standards for MSS, we believe that the MSS industry and the public safety community are in a better position than the Commission to coordinate with international organizations, such as the International Telecommunications Union. As the record indicates, emergency service requirements for global MSS systems should be developed in an international forum to take into account compatibility and consistency with international standards, and to avoid burdening United States MSS licensees with a patchwork of different requirements.[219] Therefore, we urge the MSS industry and the public safety community to continue their efforts to develop and establish public safety standards along with the international standards bodies. We will revisit this issue if the MSS industry develops into a commercial mobile telephone service similar to cellular and broadband PCS, and still does not provide reliable public safety access to MSS customers.

D. Phase I E911 Requirements

1. Background and Petitions

90. In Phase I of the E911 deployment, Section 20.18(d) requires carriers to relay the telephone number of the originator of a 911 call (referred to as Automatic Number Identification or ``ANI''), and the location of the cell site or base station receiving a 911 call (a capability often provided through a technique known as ``pseudo-ANI'') to the designated PSAP.[220] The Commission determined that the provision of ANI and pseudo-ANI as part of Phase I will provide valuable information and will assist emergency responses both by identifying the base station or cell site and by permitting call back capability if the call is disconnected.[221] Covered carriers are required to comply with Section 20.18(d) by April 1,

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[218] COMSAT Reply at 3.

[219] *See* LQL Opposition at 2-3; COMSAT Reply at 3; Motorola Satellite Reply at 6-7.

[220] 47 C.F.R § 20.18(d).

[221] *E911 First Report and Order*, 11 FCC Rcd at 18709 (paras. 64-65). Section 20.03 defines ``ANI'' and ``pseudo-ANI'' as follows:

> *Automatic Number Identification.* A system which permits the identification of the caller's telephone number.

1998, provided that the PSAPs send their request for the Phase I implementation by October 1, 1997.[222]

91. Recognizing that technology-related issues may prevent some wireless carriers from implementing Phase I within the required timetable, however, we stated that covered carriers may request a waiver of our rules.[223] If a carrier requests a waiver, it must show sufficient factual support that either (1) its network equipment is not capable of transmitting ANI and ``pseudo-ANI'' and its equipment cannot be upgraded within the Phase I timetable; or (2) the local exchange carrier (LEC) used by the covered carrier to transmit 911 calls to the PSAP does not have the capability of transmitting ANI and ``pseudo-ANI.''[224] We also stated that, if a carrier requests a waiver of Phase I requirement because its own equipment requires upgrading, it must submit with its waiver request a deployment schedule for meeting the Phase I requirements.[225]

92. In their petitions for reconsideration, several parties request that the Commission clarify or modify the terms and the carrier's responsibilities regarding the Phase I requirements. Noting that the Commission did not define ``appropriate PSAP'' or ``designated PSAP,'' Ameritech requests that the Commission clarify these terms and resolve issues related to multiple PSAPs and intersystem handoff problems.[226] CTIA argues that the definition of ``ANI'' should be revised to reflect the fact that the ANI does not always represent the directory number of the calling party, claiming that the ANI is a system for billing calls that indicates the party responsible for paying for the call.[227] With regard to the definition of ``pseudo-ANI,'' TIA and CTIA request that the Commission revise the Section 20.3 definition so that it does not imply that a carrier must use ``pseudo-ANI'' to transmit the base station or

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Pseudo Automatic Number Identification. A system which identifies the location of the base station or cell site through which a mobile call originates.

47 C.F.R. § 20.03.

[222] If a PSAP sends a Phase I request to a carrier after October 1, 1997, the carrier will be required to implement Phase I within six months after it receives the notice from the PSAP. *See E911 First Report and Order*, 11 FCC Rcd at 18709 (para. 64).

[223] *Id.* at 18710 (para. 66).

[224] *Id.*

[225] *Id.*

[226] Ameritech Petition at 2-6.

[227] CTIA Petition at 14.

cell site location information.[228] XYPOINT urges the Commission to clarify that the Phase I requirement to transmit the telephone number of the 911 caller be ``in the form of the full 10-digit directory number of the caller,'' arguing that transmission of any other number would cause confusion to PSAP operators, who may have to learn individual carrier, geographic, or technology codes.[229]

93. As to the Phase I implementation schedule, BellSouth reiterates its argument that it is not technologically feasible to pass *both* ANI and ``pseudo-ANI'' at this time, given the current state of switching technology, particularly for systems using MF or conventional SS7 protocols.[230] BellSouth thus requests the Commission to revise Section 20.18(d) of the Commission's Rules to require covered carriers to pass ANI *or* ``pseudo-ANI,'' not *both* ANI and ``pseudo-ANI.''[231] It also claims that carriers operating Motorola or Nortel systems will be requesting waivers, as will carriers in markets where the local exchange carrier (LEC) is incapable of passing the information to the PSAP, contending that new selective routers must be installed in LEC networks in order to pass 10-digit ANI and ``pseudo-ANI.''[232] In addition, in an *ex parte* letter, Nextel requests that the Commission delay the Phase I implementation deadlines for one year, citing the complexity of marketing, billing, and state and local funding and cost recovery issues.[233] In later comments, it requests a delay of two years.[234]

94. A number of parties urge the Commission to clarify the Phase I obligations of carriers in cases in which they cannot provide a call back number at all, or cannot provide a reliable call back number.[235] TIA, for example, proposes that the Commission clarify that, ``in cases where a mobile's directory number is not known to the serving carrier, the serving carrier's Phase I obligations extend only to delivering 911 calls to PSAPs, if the unit is capable of originating calls without registration, and that implementation of other E911 functionalities for such mobiles is not required.''[236] BellSouth also requests the Commission

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[228] *Id.* at 14-15; TIA Petition at 7.

[229] XYPOINT Petition at 3.

[230] BellSouth Petition at 5-6.

[231] *Id.* at 5.

[232] *Id.* at 5-7.

[233] Nextel *Ex Parte* Filing at 5-7 (June 4, 1997).

[234] Nextel Additional Comments at 3-7.

[235] *See, e.g.*, BellSouth Petition at 5-7; PCIA Petition at 6-7; TIA Petition at 12; Motorola Reply at 4-5.

[236] TIA Petition at 12.

to clarify that the call back obligation does not apply to non-service initialized handsets.[237] Similarly, PCIA argues that a carrier's obligation for non-service initialized phones should extend only to transmitting to the PSAP what logically should be a call back number, regardless of whether that number is valid.[238]

95. Later *ex parte* presentations and additional comments in response to the July 16 Public Notice reiterate the arguments that reliable call back number can not be provided unless a 911 caller is a validated subscriber, *i.e.*, a current subscriber of the serving carrier or a roamer with a roaming agreement with the serving carrier.[239] On the other hand, Alliance in its July 11 *ex parte* filing contends that any handset can be called back by a PSAP by use of a ``valid" MIN or a ``pseudo-MIN" assigned to the calling handset by the cell switch at the time the 911 call is received.[240] Many parties in their additional comments filed in response to the July 16 Public Notice, however, dispute Alliance's claim that the use of a ``pseudo-MIN" is a feasible solution to the call back requirement.[241]

96. In the September 25, 1997, Joint Letter, the parties contend that once number portability is implemented, a MIN will not serve as a unique identifier, and this will thwart the ability of carriers to provide call back capability.[242] In addition to their proposals to modify Section 20.18(b) of the Commission's Rules, the parties to the Joint Letter urge the Commission to refrain from making any decisions regarding certain call back capabilities, the strongest signal issue, and the use of temporary call back numbers until the relevant parties develop consensus positions.[243] While supporting a commitment by interested parties to continue to discuss technical issues, however, Congresswoman Eshoo and Alliance oppose the Joint Letter's suggestion that the Commission should wait for these developments to occur

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[237] BellSouth Petition at 8-9.

[238] PCIA Petition at 6-7.

[239] *See, e.g.*, Coalition *Ex Parte* Filing at 1 (July 10, 1997); GTE *Ex Parte* Filing (July 7, 1997); AirTouch Additional Comments at 6-7; AT&T Additional Comments at 2.

[240] Alliance *Ex Parte* Filing at 2 (July 11, 1997).

[241] *See, e.g.*, AirTouch Additional Comments at 6-7; AT&T Additional Comments at 1-2; BANM Additional Comments at 5-6; CTIA Additional Comments at 6-7; NENA Additional Comments at 4-5; SBMS Additional Comments at 3; 360° Communications Additional Comments at 2; *see also* Coalition *Ex Parte* Filing (Aug. 8, 1997).

[242] Joint Letter at 2.

[243] *Id.* at 4.

prior to resolving issues under reconsideration.[244] Alliance also claims that a caller using a GSM handset can be called back even if service has never been initialized. In response to the claim made in the Joint Letter that the ability of carriers to provide call back numbers will be thwarted once number portability is implemented,[245] Alliance argues that call back can be easily accomplished in the number portability situation as well by assigning a pseudo-ANI.[246]

97. Further comments filed in response to the October 3 Public Notice generally dispute Alliance's contentions regarding the call back capability and the use of pseudo-ANI.[247] Particularly, in response to Alliance's claim that call back is possible for uninitialized GSM handsets, some parties contend that the record clearly demonstrates that no technology, including GSM, can provide call back if service has not been initialized.[248] CTIA also claims that ``call back will be possible only upon successful validation — *i.e.*, a database query must be conducted to retrieve a dialable number,'' particularly once number portability is implemented.[249] In addition, Sprint PCS contends that Alliance misconstrues the meaning of the term ``pseudo-ANI,'' arguing that within the Sprint PCS CDMA system, a ``pseudo-ANI'' is a number assigned to a particular sector of a tower face that permits the system to identify the approximate location of the caller.[250] Sprint PCS thus argues that the existence of a pseudo-ANI does not mean the existence of call back capability because pseudo-ANI is not associated with a specific handset.[251] In their Joint Reply Comments, however, public safety community representatives argue that the issues related to the call back capability should remain open for discussion with Alliance and other interested parties.[252]

2. Discussion

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[244] Congresswoman Eshoo *Ex Parte* Letter (Sept. 29, 1997); Alliance *Ex Parte* Letter (Sept. 30, 1997) at 2.

[245] Joint Letter at 3.

[246] Alliance *Ex Parte* Letter (Sept. 30, 1997) at 1-2.

[247] *See, e.g.*, AirTouch Further Comments at 4; CTIA Further Comments at 5; GTE Further Comments at 3-4; PCIA Further Comments at 2-3; Sprint PCS Further Comments at 2.

[248] *See, e.g.*, AirTouch Further Comments at 2-3; CTIA Further Comments at 5; GTE Further Comments at 3-4; PCIA Further Comments at 5-6.

[249] CTIA Further Comments at 5-6; *see also* Sprint PCS Further Comments at 2.

[250] Sprint PCS Further Comments at 2.

[251] *Id.*

[252] Joint Reply Comments at 1.

a. Clarification of Terms

(1) Selective Routing: Appropriate PSAP, Designated PSAP

98. As we noted in the *E911 First Report and Order*, the current E911 systems were originally developed for the wireline telephone services, allowing selective routing of 911 calls to the appropriate PSAP based on the location of 911 callers, among other features.[253] We recognized that the nature of wireless technology presents significant obstacles to making E911 effective for wireless calls. In particular, we noted that selective routing of calls to the appropriate PSAP based on the location of the caller is complicated by the fact that a wireless caller is often moving and the transmission may be received at more than one cell site.[254] The record indicated, however, that the carriers and the state or local entities have successfully coordinated the routing of wireless 911 calls to PSAPs, depending on the circumstances of each jurisdiction.[255] To the extent that the terms ``appropriate'' and ``designated'' PSAPs, as used in the *E911 First Report and Order*, may be unclear, we wish to clarify that the responsible local or state entity has the authority and responsibility to designate the PSAPs that are appropriate to receive wireless 911 calls.[256]

99. We recognize that the carriers need to coordinate with the state and local governmental entities to determine the designated PSAP, particularly where their service areas cover multiple political jurisdictions. We agree with Ameritech that, without guidance from

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[253] *E911 First Report and Order*, 11 FCC Rcd at 18679 (paras. 4-5).

[254] *Id.* at 18680 (para. 7).

[255] Each state has developed its own 911 emergency service system. For example, in California, all wireless 911 calls are routed to the State Highway Traffic Agency. In many jurisdictions, the local wireless carriers and PSAPs have coordinated to determine ``designated PSAPs'' to receive wireless 911 calls. *See* Ameritech *Ex Parte* Filing (May 13, 1997). Most states have also enacted legislation regarding the E911 Emergency Response System, providing definitions for ``PSAP'' and other terms. The following definitions of ``PSAP'' are a few examples of state E911 legislation.

> Vermont Statutes, Section 7051(9): ``PSAP'' means a ``facility with enhanced 911 capability, operated on a 24-hour basis, assigned the responsibility of receiving 911 calls and dispatching, transferring, or relaying emergency 911 calls to other public safety agencies or private safety agencies.''
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> New York County Law, Section 301(6): ``PSAP'' means a ``communications facility which first receives 911 calls from persons within a 911 service area and which may, as appropriate, directly dispatch the services of a public safety agency or extend, transfer, relay or otherwise route 911 calls to the appropriate public safety agency.''

[256] *See* NENA *Ex Parte* Filing (Aug. 8, 1997) (providing information about how wireless carriers may identify PSAPs associated with their service areas).

state or local governmental entities, it may not be clear how a covered carrier would select among multiple PSAPs that may serve the same area but are managed by separate agencies or different governmental entities, crossing state or local political jurisdictions.[257] We believe, however, that just as current wireline 911 systems have been successfully developed and managed by state and local governmental entities in coordination with the public safety organizations, these same bodies will successfully integrate wireline and wireless E911 systems. Until the relevant state or local governmental entities develop a routing plan for wireless 911 calls within their jurisdictions, therefore, covered carriers can comply with our rules by continuing to route 911 calls to their incumbent wireless PSAPs.

(2) Section 20.03 Definitions of ANI, Pseudo-ANI

100. Upon reviewing the petitions for reconsideration, we determine to grant the petitions filed by CTIA and TIA partially, by modifying the Section 20.03 definitions of ``ANI'' and ``pseudo-ANI.'' When the Commission defined ``ANI'' as ``a system which permits the identification of the caller's telephone number,'' it was our understanding that covered carriers could provide call back numbers to the PSAP through the use of ANI. CTIA and TIA point out that ANI is a system for billing calls that indicates the person responsible for paying for the call, not always the directory number of the caller.[258] In emergency service applications, ANI is modified to identify the calling party so it may be used as a call back number.[259] We agree with CTIA that the current definition of ANI may be mistakenly interpreted, and we clarify the definition as suggested by CTIA. Therefore, we modify the Section 20.03 definition of ``Automatic Number Identification'' to mean a system that (1) identifies the billing account for a call in other applications, but for 911 systems, identifies the calling party; and (2) can also be used as a call back number. This call back number should provide capability to reach roamers, either through a 10 digit ANI as XYPOINT proposes, or through other mechanisms that may be negotiated with the PSAPs to achieve the same purpose.

101. The Commission defined ``pseudo-ANI'' as ``a system which identifies the location of the base station or cell site through which a mobile call originates,''[260] with the understanding that carriers could transmit cell site location information through the use of pseudo-ANI. Upon reviewing the record, we agree with TIA that pseudo-ANI may not be

[257] *See* Ameritech Petition 3.

[258] *E.g.*, CTIA Petition at 14.

[259] *Id.*

[260] 47 C.F.R. § 20.03.